PLASMA DISPLAY PANEL MANUFACTURING
METHOD AND HEAT TREATMENT APPARATUS
Inventor: Junji KOGURE, et al. Art Unit: 2879
Filing Date: 12/16/2003 Attorney Docket: Q78969
Application No.: 10/735,640 Confirmation No.: 3525
Sughrue Telephone No. 202-293-7060
Replacement Sheet 1 of 9

FIG. 1
PRIOR ART

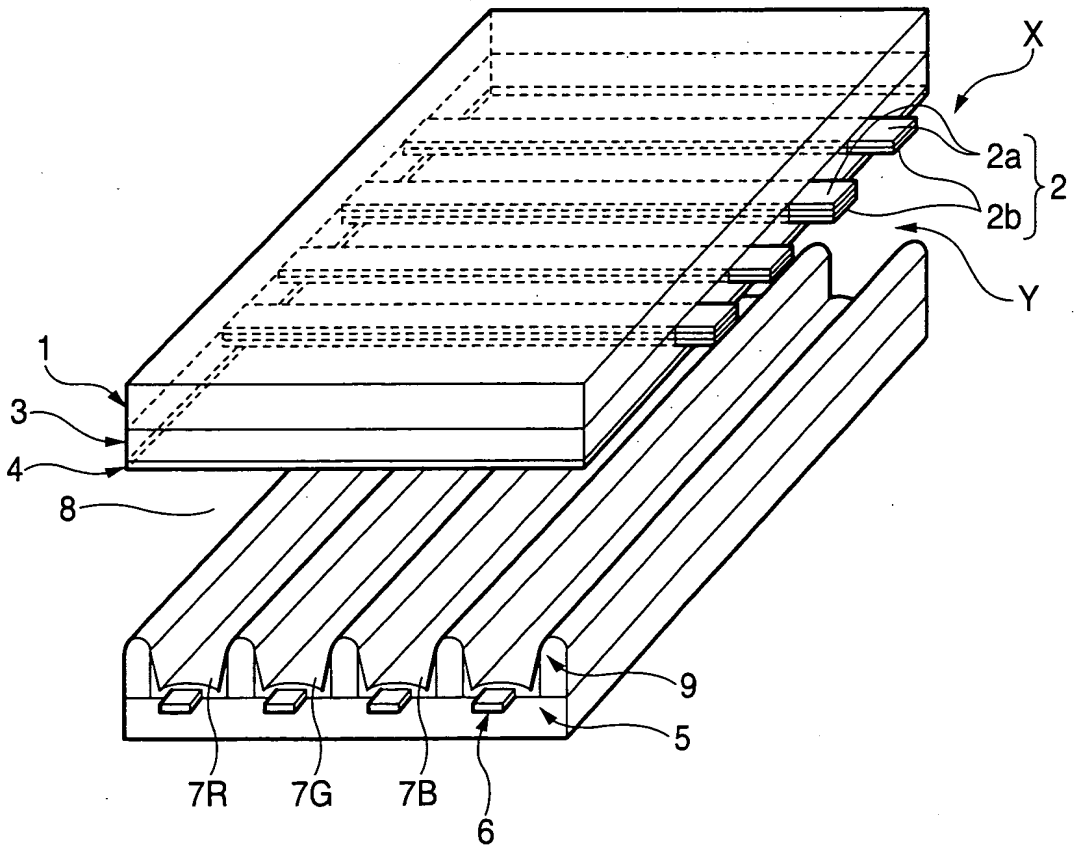


FIG. 2
PRIOR ART

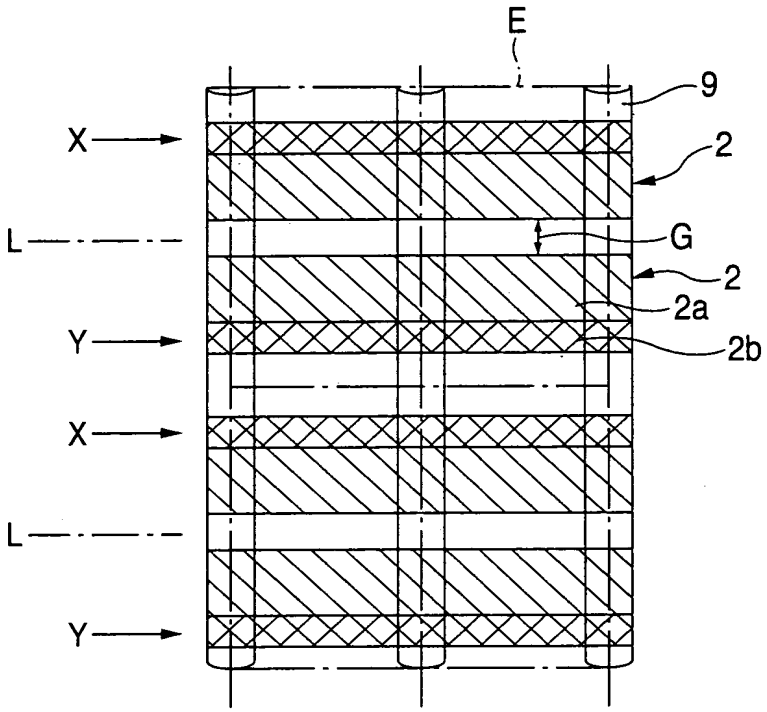


FIG. 3
PRIOR ART

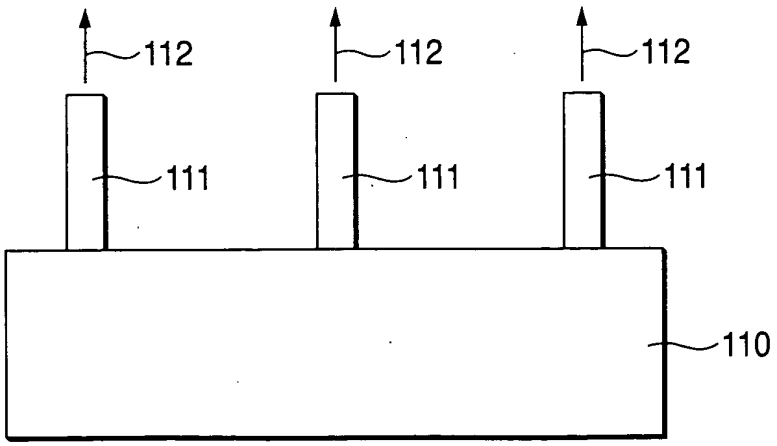


FIG. 4

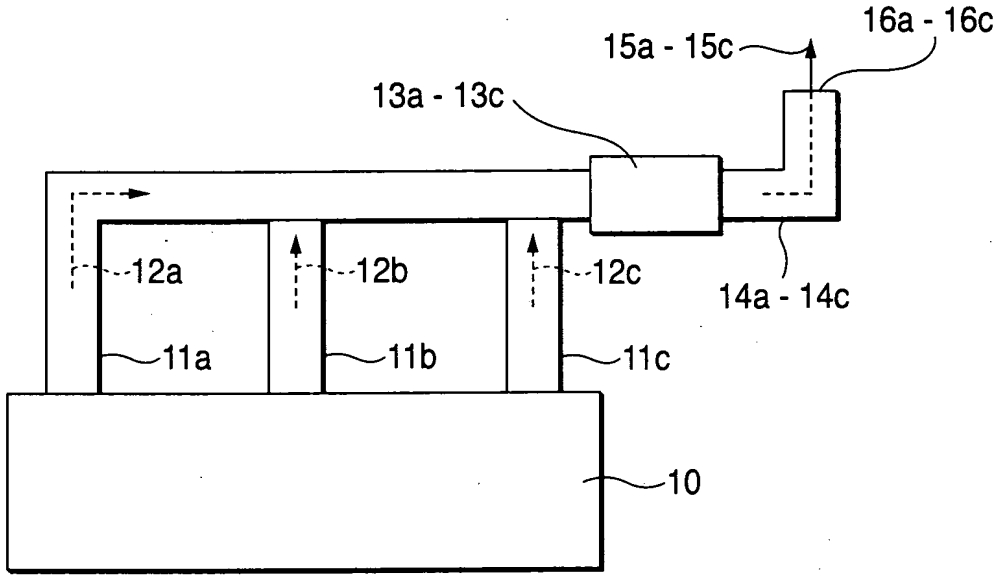

16a - 16c
15a - 15c
13a - 13c
12a
12b
12c
14a - 14c
11a
11b
11c
10

FIG. 5

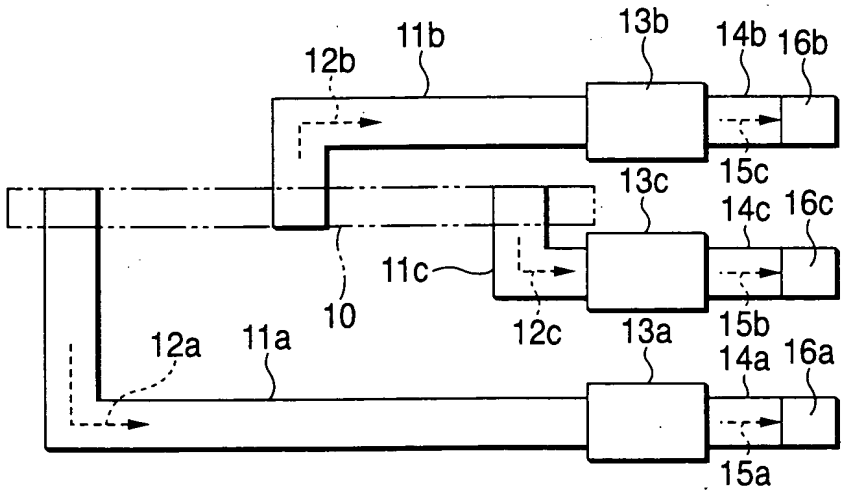

11b
13b
14b
16b
12b
15c
13c
14c
16c
11c
10
12c
13a
15b
12a
11a
14a
16a
15a

FIG. 6

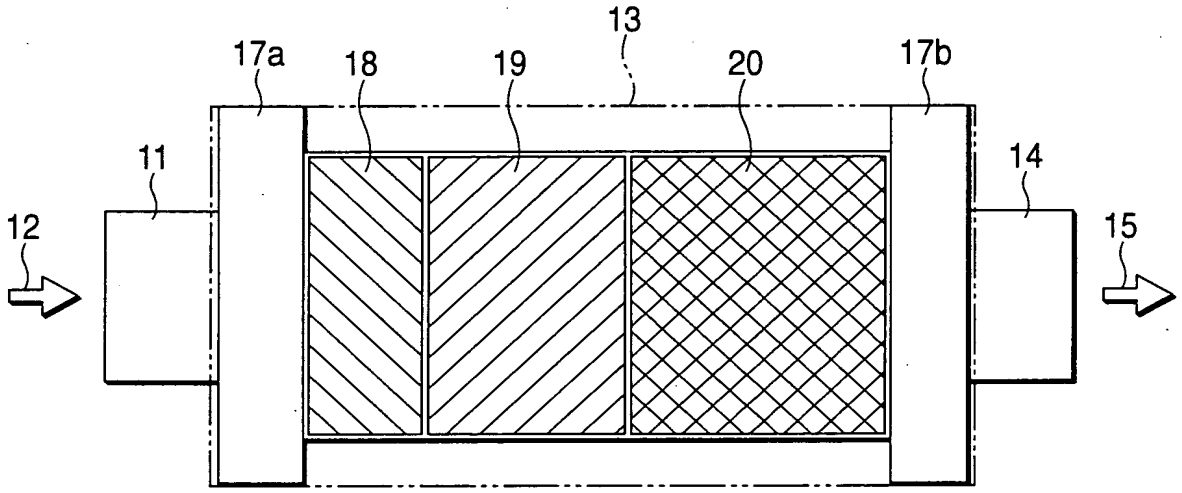


FIG. 7

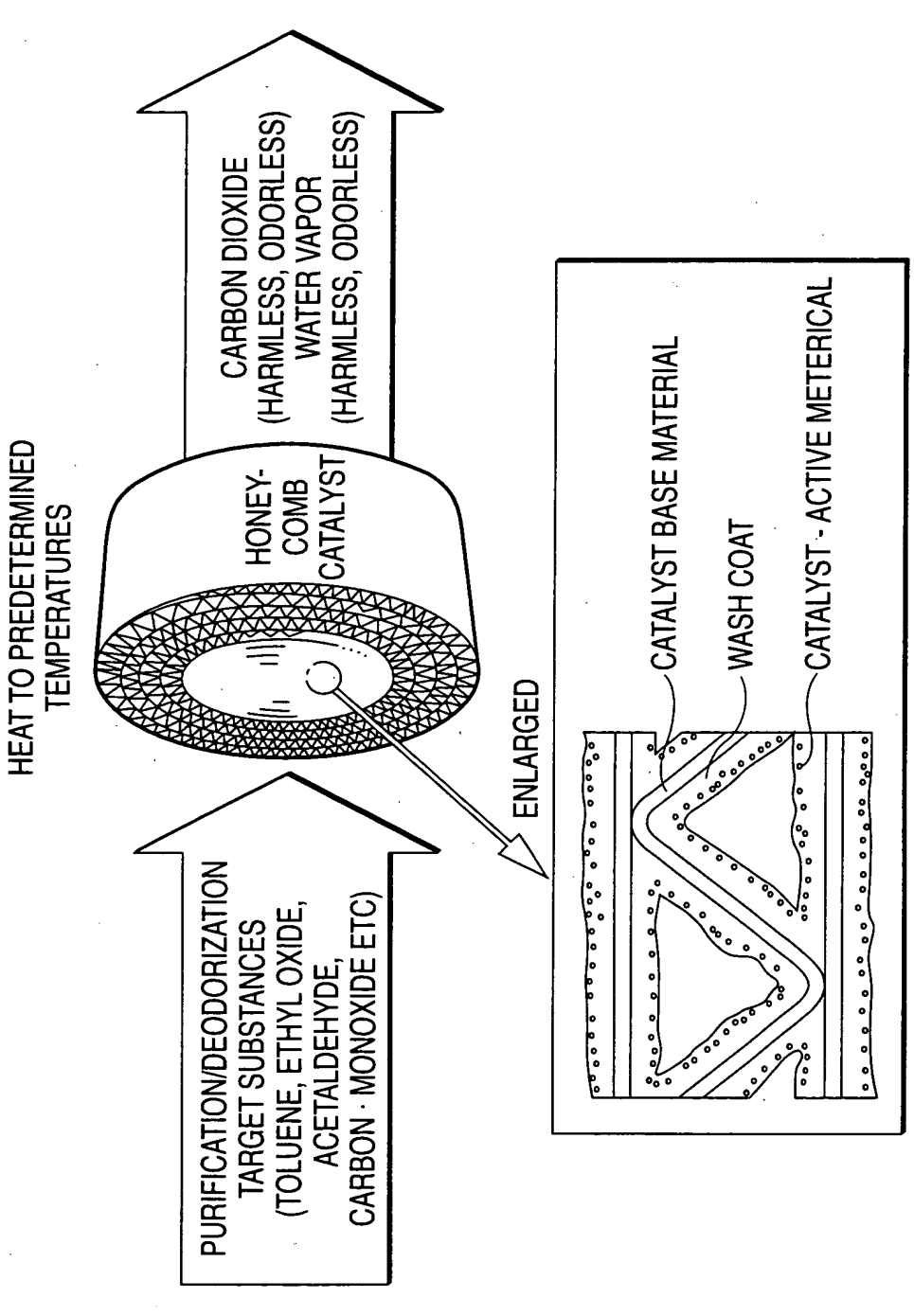

HEAT TO PREDETERMINED TEMPERATURES
PURIFICATION/DEODORIZATION TARGET SUBSTANCES (TOLUENE, ETHYL OXIDE, ACETALDEHYDE, CARBON · MONOXIDE ETC)
HONEY-COMB CATALYST
CARBON DIOXIDE (HARMLESS, ODORLESS) WATER VAPOR (HARMLESS, ODORLESS)
ENLARGED
CATALYST BASE MATERIAL
WASH COAT
CATALYST - ACTIVE METERICAL

FIG. 8 (a)

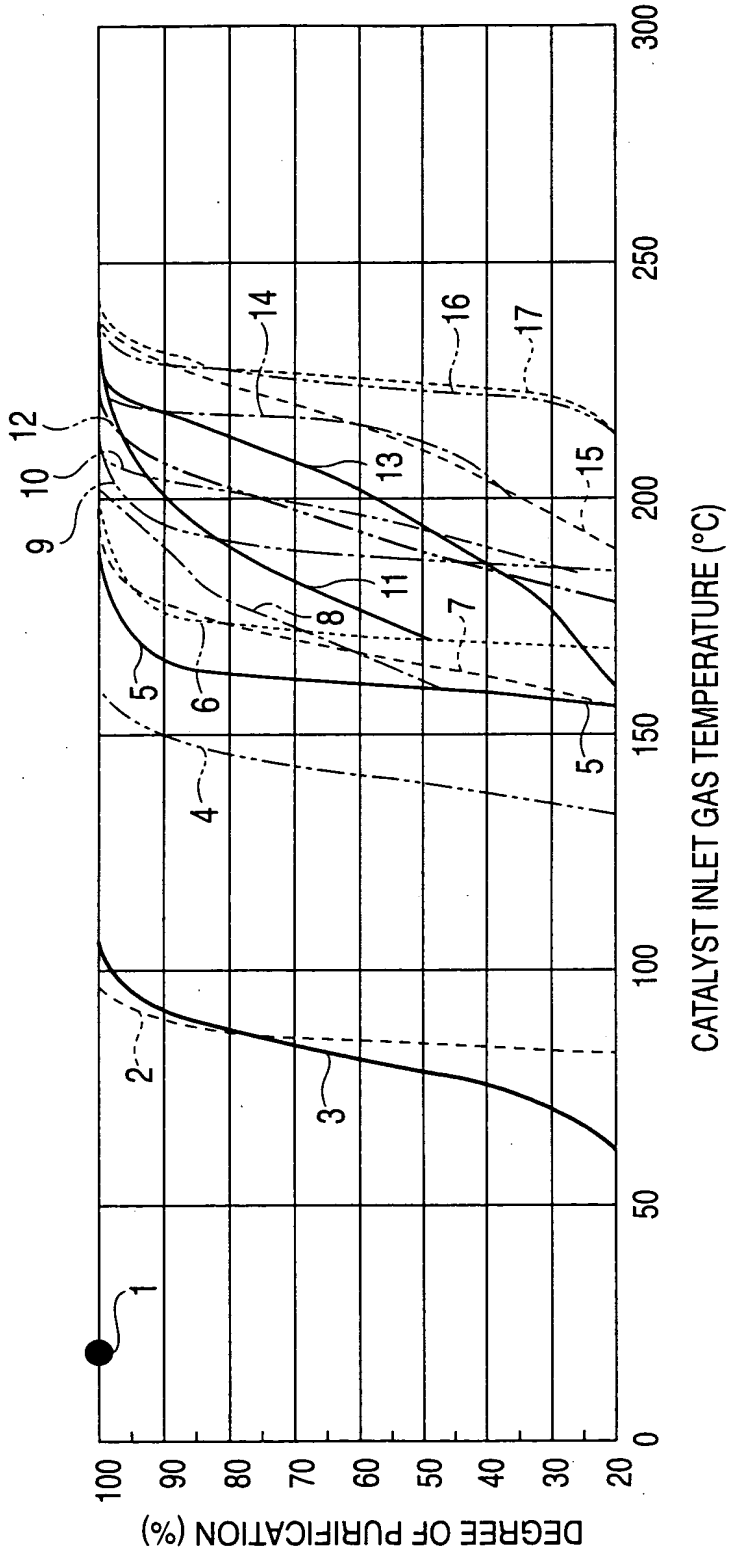

DEGREE OF PURIFICATION (%)
100
90
80
70
60
50
40
30
20
CATALYST INLET GAS TEMPERATURE (°C)
0
50
100
150
200
250
300
1
2
3
4
5
5
6
7
8
9
10
11
12
13
14
15
16
17

FIG. 8 (b)

NO.	SUBSTANCE NAME	CHEMICAL FORMULA	CONCENTRATION (ppm)	SPACE VELOCITY (h^{-1})
1		H_2	1%	60,000
2		CO	1,000	60,000
3		CH_3OH	100	30,000
4		C_2H_4	5,000	60,000
5		$C_6H_{10}O$	550	60,000
6		$C_6H_5CH_3$	550	60,000
7		$C_2H_5COCH_3$	650	60,000
8		$(CH_3)_2S$	10	30,000
9		$C_6H_4(CH_3)_2$	550	60,000
10		NH_3	300	30,000
11		$(CH_3)_3N$	30	30,000
12		CH_3CHO	140	30,000
13		C_2H_5OH	300	30,000
14		$CH_3C_6H_4OH + C_6H_5OH$	660 + 440	60,000
15		$(C_2H_5)_3N$	300	30,000
16		CH_3COOH	100	30,000
17		$HCON(CH_3)_2$	740	60,000

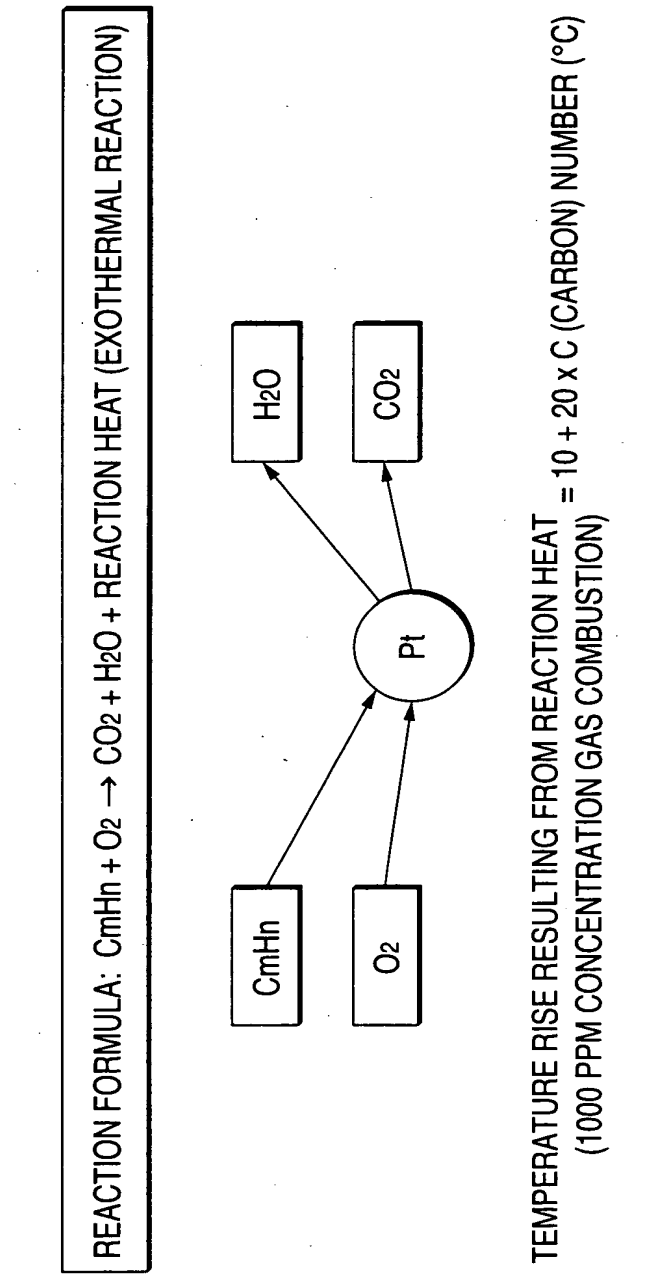
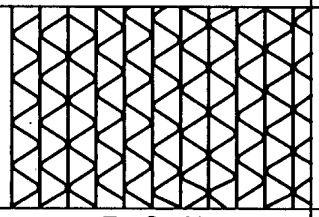
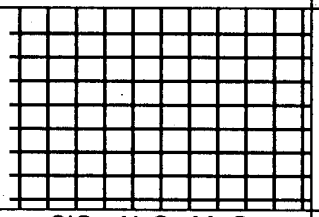
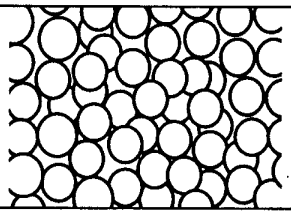

REACTION FORMULA: CmHn + O2 → CO2 + H2O + REACTION HEAT (EXOTHERMAL REACTION)
H2O
CO2
Pt
CmHn
O2
TEMPERATURE RISE RESULTING FROM REACTION HEAT = 10 + 20 x C (CARBON) NUMBER (°C)
(1000 PPM CONCENTRATION GAS COMBUSTION)

FIG. 9

FIG. 10

CATALYST TYPE	METAL HONEYCOMB CATALYST	CERAMIC HONEYCOMB CATALYST	PELLET CATALYST
CATALYST TYPE			
BASIC COMPOSITION	Fe-Cr-Al	SiO_2-Al_2O_3-MgO	Y-Al_2O_3
COEFFICIENT OF HEAT CONDUCTIVITY	LARGE	SMALL	SMALL
FILLED SPECIFIC GRAVITY	0.4 TO 0.6	0.6 TO 0.7	0.4 TO 0.8
HEAT CAPACITY	SMALL	MODERATE	LARGE
STANDARD SV VALUE	30,000 TO 60,000 h^{-1}	20,000 TO 40,000 h^{-1}	10,000 TO 30,000 h^{-1}
PRESSURE LOSS (*)	5.5	7.1	41.5
MECHANICAL STRENGTH	STRONG	WEAK	MODERATE
THERMAL SHOCK RESISTANCE	STRONG	WEAK	MODERATE

(*: MEASURED VALUE UNDER AN ATMOSPHERE OF 200°C AND 1 Nm/s.)

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